

UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application for Letters Patent

Applicant: MONTIE H. MINER

Serial Number: 08/715,439

Filed: 9/18/96

For: POWER TOOL DRIVES

AFFIDAVIT UNDER 37 CFR 1.132

STATE OF MISSOURI)
) SS
CITY OF ST. LOUIS)

MONTIE H. MINER, of lawful age and being duly sworn, upon oath states:

1. Affiant is the inventor of the devices for which this application for letters patent has been filed.
2. Typically, power tool yokes are driven by shafts which operate at rotational speeds well in excess of 2,000 revolutions per minute. The yoke in a manually operated ratchet moves back and forth approximately 60 cycles per minute. Obtaining engagement between gear teeth and pawl teeth in power tools as opposed to manually operated tools is of greater complexity because of that difference in speed. In a manually operated ratchet, the pawl teeth engage the gear teeth as the yoke changes direction. In a power tool, the yoke moves before the pawl teeth engage the gear teeth. To use more than one pawl tooth in a power tool, the pawl teeth must be moved into position the yoke moves. Applicant, who has been involved in the tool industry for many years, believes his power ratchet is the first and only ratchet which works with multiple pawl

teeth.

3. In power tools, I have discovered it is mandatory that adjustments be made in both the construction of the teeth in the gear and the teeth on the pawl in order to be able to use pawls which have more than one tooth.

4. Attached hereto to illustrate the problems present without such adjustments is attachment A comprising three sheets, A1, A2 and A3. A1 shows the peripheral construction of a gear having uniform peripheral teeth. A2 illustrates how the first tooth of a pawl having two equally sized teeth will interfere with one side of an A1 gear tooth during entry into and out of engagement. A3 illustrates how further movement of the pawl will cause jamming and locking of the tool as pawl movement continues.

5. Because the movement of the pawl and yoke are simultaneous in a power tool, Haist does not provide a solution to the locking and jamming shown in Attachment A.

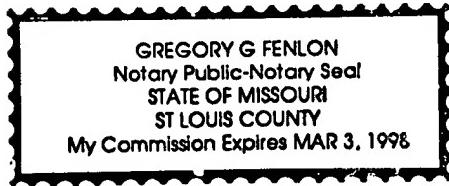
6. Applicant is unaware of any other known references or in the art, or tools which have preceded applicant's new, unique and utile device.

7. Further Affiant sayeth not.

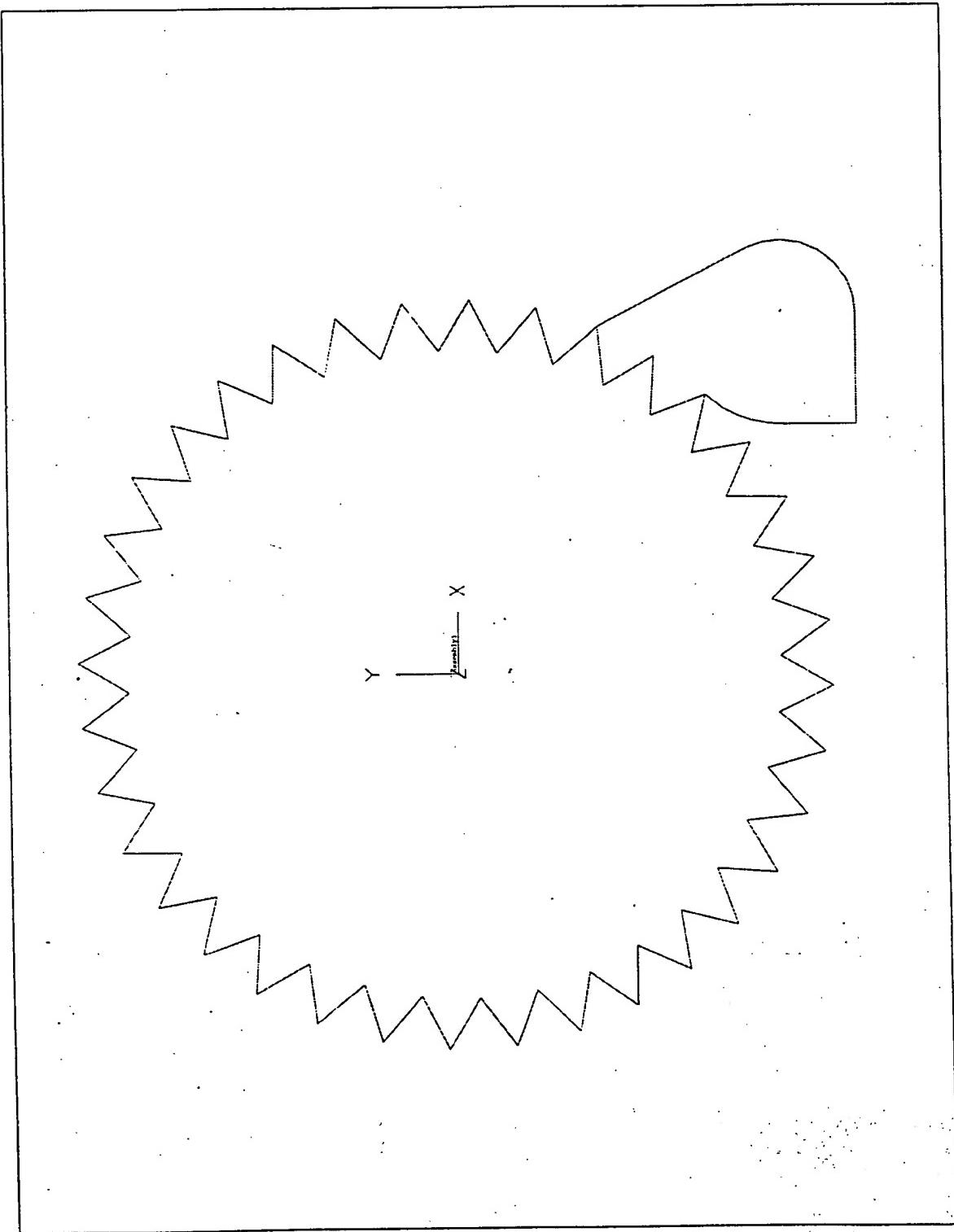


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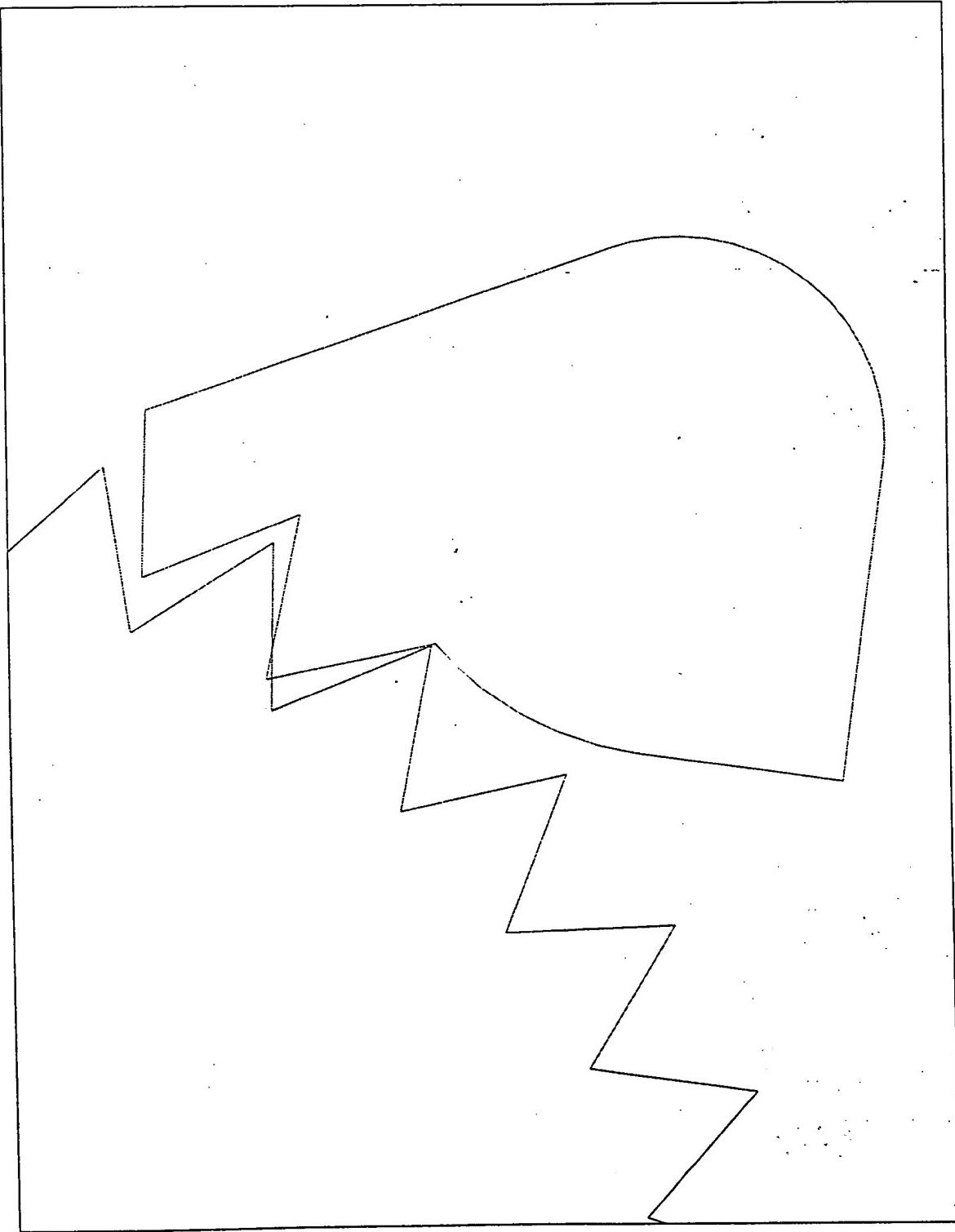
Subscribed and sworn to before me this 2nd day of May, 1997.



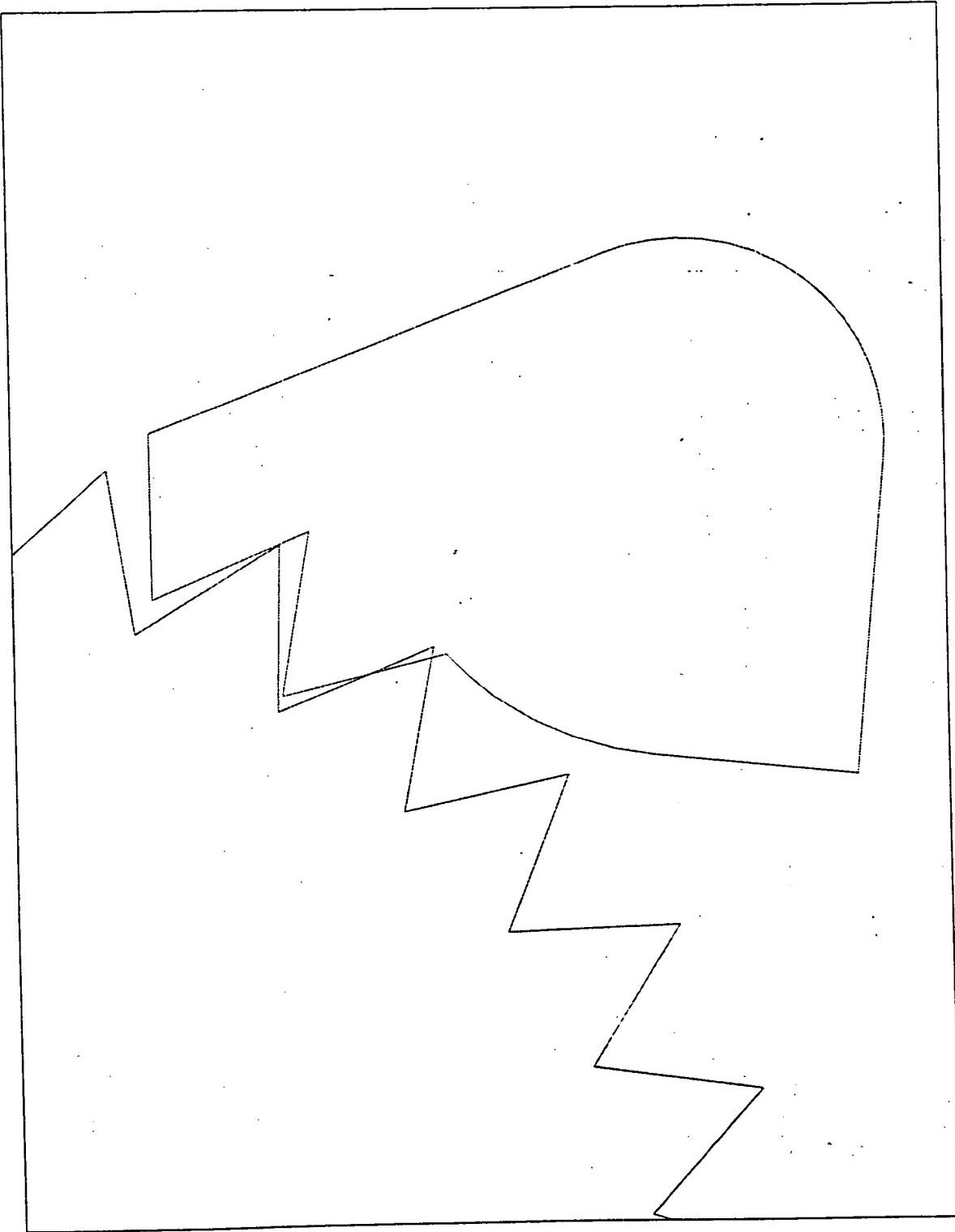
Notary Public



A1



A2



A3